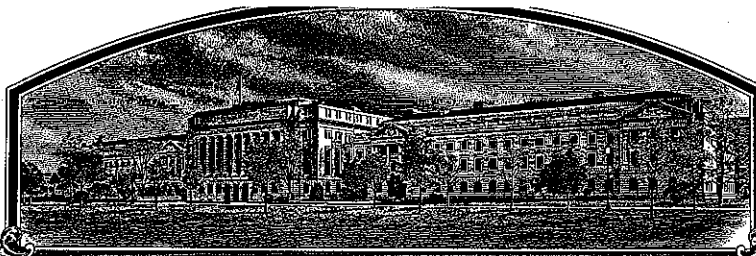


No.

200400109



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Rutgers, The State University of New Jersey

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

FESCUE, TALL

'Cochise III'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of November, in the year two thousand and seven.

Attest:

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <i>The State University of New Jersey</i> <i>Rutgers University - Cook College</i> <i>c/o Dr. William Meyer</i> (BT: 8/4/2006)		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 018	3. VARIETY NAME Cochise III
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901		5. TELEPHONE (Include area code) 732 - 932 - 9711 ext. 160	FOR OFFICIAL USE ONLY PVPO NUMBER <i>200400109</i>
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Government Institution	8. IF INCORPORATED, GIVE STATE OF INCORPORATION	6. FAX (Include area code) 732 - 932 - 9441	FILING DATE <i>February 17, 2004</i>
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers.)  Dr. William Meyer c/o Rutgers University - Cook College Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901			F E E S R E C E I V E D FILING AND EXAMINATION FEES: \$ <i>3652-</i> DATE <i>2/17/2004</i> CERTIFICATION FEE: \$ <i>768.00</i> DATE <i>9/25/2007</i>
11. TELEPHONE (Include area code) 732 - 932 - 9711 ext. 160	12. FAX (Include area code) 732 - 932 - 9441	13. E-MAIL	14. CROP KIND (Common Name) Tall Fescue
15. GENUS AND SPECIES NAME OF CROP <i>Festuca arundinacea</i>		16. FAMILY NAME (Botanical) <i>Poaceae</i>	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)  a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO THE NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> 5 CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)	
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER <i>Keith R. Cooper</i> NAME (Please print or type) <i>Keith R. Cooper</i> CAPACITY OR TITLE <i>Professor of Cook College</i>		SIGNATURE OF OWNER  NAME (Please print or type)  CAPACITY OR TITLE  DATE <i>1/29/04</i>	

**Exhibit A:**  
**Origin and Breeding History**  
**Cochise III (018) Tall Fescue**

Cochise III tall fescue (*Festuca arundinacea* Schreb.) is a medium low-growing, dark green, medium-fine-leaved, turf-type tall fescue selected from the progenies of 35 clones. Cochise III was selected for high seed yield, intermediate density, dark-green color, taller semi-dwarf growth habit, improved rust resistance and medium maturity.

The parental germplasm of Cochise III tall fescue traces its origin to plants selected from old turfs of the United States in a germplasm collection program initiated in 1962, to plants selected from or related to Rebel tall fescue (Funk et al., 1981). Attractive clones were selected from old turfs in Birmingham, AL; Athens, Atlanta, and Milledgeville, GA; Preston, ID; Baltimore, MD; Bayonne, Jersey City, Elizabeth, Princeton, and Cape May, NJ; eastern North Carolina; Philadelphia, PA; Nashville, TN; Lexington, KY; Cincinnati, OH; Dallas, TX, and northern Mississippi. The tall fescue plants selected from old turfs were of unknown origin. All were large patches of turf surviving in stressful environments indicating that they had persisted and developed over a period of many years.

A few hundred attractive, turf-type plants were collected and established in spaced-plant nurseries and/or frequently mowed clonal evaluation trials at Rutgers University. All but a few dozen of the most promising plants were quickly discarded. The best selections were very different from any tall fescue variety in existence at the time of collection. They produced lower-growing turfs with finer leaves, greater density, darker color and greater tolerance of close mowing.

The most promising plants were identified by their persistence and appearance in old turfs and their performance in spaced-plant nurseries, mowed clonal evaluation tests, and single-plant progeny trials under turf maintenance. Intercrosses of the best performing plants were subjected to varying cycles of phenotypic and genotypic selection depending on their date of collection. New sources of germplasm were added to the breeding program as it became available from the continuing collection program. Each cycle of selection showed continued progress in producing lower-growing, darker green, attractive plants with improved turf performance scores. Selection was also effective in maintaining high seed yields, and good stress tolerance. Substantial progress was made in developing tall fescues with finer leaves, a lower growth profile, increased persistence

under close mowing, and increased density.

Large numbers of single-plant progenies were seeded in turf evaluation trials at the Plant Science Research Farm at Adelphia, NJ in 1995, 1996, 1997, and 1998. The plants selected for progeny evaluation were selected from spaced-plant nurseries at Adelphia following varying cycles of phenotypic and genotypic selection of germplasm selected from old turfs and germplasm selected from or related to Rebel tall fescue.

Following a period of brown patch disease in 1999, a total of 6,150 tillers were selected from the best performing single-plant progeny turf plots from the 1995, 1996, 1997 and 1998 tall fescue test at Adelphia. One hundred and forty-five single-plot progenies were selected from 510 plots from 8 different populations from the 1995 test, 585 plots from 9 different populations in the 1996 test, 1,055 plots from 10 different populations from the 1997 test and 635 plots from 9 different populations from the 1998 test. Selection was based on performance records as well as appearance at the time the plants were selected from these progeny plots. Selection of plants from each progeny was based on an attractive dark green color, medium-fine leaves, abundant tillering, a more open, medium-coarse canopy structure. These plant were established in greenhouse flats prior to their transfer to a 3060 spaced-plant nursery in the fall of 1999. In the spring of 2000, 75% of this nursery was rogued, prior to anthesis, for disease susceptibility, non-uniform growth habit, poor seed yield potential and light green color. Approximately 765 plants were left to open pollinated in this nursery. Thirty-five plants with medium maturity and similar growth habit and improved rust resistance were harvested from this nursery. One turf plot of each plant was established in the fall of 2000. In addition, these 35 clones were vegetatively propagated to 48 plants used to establish an isolated replicated polycross nursery in the fall of 2000. In the spring of 2001, five clones in the nursery were eliminated due to poor turf quality in turf plots. The remaining plants were allowed to interpollinated and harvested as '018' breeder seed. These plants produced approximately 32 pounds of breeder seed. Replicated turf plots of '018' were established at Adelphia in the fall of 2001 and entered in the 2001 National Tall fescue test to be tested throughout the country. Sixteen pounds of breeder seed was sent to Ampac Seed, Co. for foundation and certified seed increase.

In 2001 breeder seed was used to establish a morphological nursery for Plant Variety Protection (PVP) measurements at Advanta Seeds Pacific, Albany, Oregon.

## References

1. Buckner, Robert C., Jerrell B. Powell, and Rod V. Frakes. 1979. Historical Development, in Buckner, Robert C., and Lowell P. Bush (editors) Tall Fescue. Agronomy Monograph 20. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Inc., Publishers. Madison, Wisconsin, pages 1-8.
2. Funk, C. R., R. E. Engel, W. K. Dickson, and R. H. Hurley. 1981. Registration of 'Rebel' tall fescue. Crop Sci. 21:632.

**Diagram of Origin and Breeding History****Cochise III (018) Tall Fescue**

- 1962 - 1994: Germplasm collection, evaluation, and genetic improvement.
- 1995 - 1998: Planted single-plant progenies of plants selected from current cycles of population improvement programs in closely mowed turf trials at Adelphia and North Brunswick, New Jersey.
- 1999: Selected 6,150 plants from 145 of the best performing single-plant turf plots planted in 1995, 1996, 1997 and 1998. Established selected plants in two isolated spaced-plant nursery at Adelphia, New Jersey.
- 2000: Rogued approximately 75% of 3,060 plants to 765. These were interpollinated and 35 plants were harvested for excellent floret fertility and appearance at the time of harvest. Seed from each plant was established in turf plots in the fall of 2000. These plants were also vegetatively propagated and established in an isolated randomized polycross nursery in the fall of 2000.
- 2001: Five lines were eliminated due to poor turf quality in turf plots. The remaining plants were harvested and thirty pounds of '018' breeder seed was produced.

2. Breeder Seed Maintenance:

A breeder seed multiplication was planted in isolation in 2000 in Adelphia, New Jersey. Seed was harvested in bulk in 2001 and is maintained in cold storage. Seed propagation is limited to three generations, one each of foundation, registered, and certified.

3. Stability and Uniformity:

Cochise III has been a stable uniform cultivar over two generations. No off-type or variant plants have been observed during the multiplication or reproduction. Turf plots of Cochise III have been uniform.

**Exhibit B:****Novelty Statement of Cochise III (018) Tall Fescue**

The following summary outlines the distinctive characteristics of Cochise III. The novelty of Cochise III is based on the unique combination of these characteristics. Cochise III is most similar to Rebel II, but may be differentiated by using the following criteria:

1. The genetic color of Cochise III is darker compared to Rebel II (tables 1A, 1B).
2. The flag leaf characteristics for Cochise III of length and sheath length are shorter compared to Rebel II (tables 1A, 1B).
3. The leaf blade length and sheath length are reduced for Cochise III compared to Rebel II (tables 1A, 1B).
4. Cochise III has a shorter glume length than Rebel II (tables 2A, 2B).
5. The number of spikelets per panicle is less for Cochise III compared to Rebel II (tables 2A, 2B).
6. The distance between the two most lower whorls is shorter for Cochise III than Rebel II (tables 2A, 2B).
7. Cochise III has a lower frequency of plants with a horizontal growth habit compared to Rebel II (tables 3A, 3B).
8. The purple pigmentation of the panicle is more frequent in Rebel II than Cochise III (tables 3A, 3B).
9. Cochise III produces more plants with only one branch of the lower most whorl than Rebel II (tables 3A, 3B).



Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY PROGRAM  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT C  
(TALL & MEADOW FESCUES)**

**OBJECTIVE DESCRIPTION OF VARIETY  
TALL & MEADOW FESCUES  
(*Festuca* spp.)**

NAME OF APPLICANT(S) Rutgers University <i>The State University of New Jersey</i> <i>(BT 18/17/2007)</i>	TEMPORARY DESIGNATION 018	VARIETY NAME Cochise III
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code) Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901	FOR OFFICIAL USE ONLY PVPO NUMBER  <b>200400109</b>	

Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). Characteristics described, including numerical measurements, should represent those that are typical for the variety. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characteristics marked with an asterisk \* are characteristics which should be recorded.

\* 1. SPECIES: (With comparison varieties, use varieties within the species of the application variety)

  X   1 = *F. arundinacea* (Tall)

**Turf Types**

1 = Kentucky 31   2 = Rebel   3 = Olympic   4 = Bonanza   5 = Arid   6 = Rebel II  
7 = Shortstop   8 = Silverado   9 = Rebel Jr.   10 = Mini Mustang   11 = Crewcut   12 = Bonsai

**Forage Types**

20 = Kentucky 31   21 = Martin   22 = Forager   23 = Mozark  
24 = Kenhy   25 = AU Triumph   26 = Fawn   27 = Cajun

       2 = *F. pratensis* (Meadow)

30 = Admira   31 = Beaumont   32 = Comtessa   33 = Ensign   34 = Trader

\* 2. CYTOLOGY:

       42        Chromosome Number

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

  0   Transition Zone     2   West     2   Northeast          Other (Specify): \_\_\_\_\_

\* 4. MATURITY: (Date First Headed, 10% of Panicle Emergence)

  5   Maturity Class   1 = Very early (   )   2 = AU Triumph   3 = Early (Fawn)   4 = K31, Kenhy   5 = Medium (Rebel)

4. MATURITY: (continued)

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6 = Bonanza

7 = Late (Silverado)

8 = ( )

9 = Very late

Date Headed 40.50 days after April 1, \_\_\_\_\_

Location Albany, OR \_\_\_\_\_

\_\_\_\_\_ Days earlier than \_\_\_\_\_  
 Maturity same as 6  
 \_\_\_\_\_ Days later than \_\_\_\_\_

} Comparison Variety

\* 5. MATURE PLANT HEIGHT CM: (Average of 100 culms \* INTERNODE LENGTH CM:

from crown to top of panicle, if panicle is nodding, straighten)

(First internode subtending the flag leaf)

88.15 cm Height

16.90 cm Internode Length

\_\_\_\_\_ cm Shorter than \_\_\_\_\_  
 Height same as 6  
 \_\_\_\_\_ cm Taller than \_\_\_\_\_

} Comparison Variety

\_\_\_\_\_ cm Shorter than \_\_\_\_\_  
 Length same as 6  
 \_\_\_\_\_ cm Longer than \_\_\_\_\_

} Comparison Variety

\* HEIGHT AT EAR EMERGENCE CM: (Flag leaf height from crown to flag leaf node)

20.28 cm Height

\_\_\_\_\_ cm Shorter than \_\_\_\_\_  
 Height same as 6  
 \_\_\_\_\_ cm Taller than \_\_\_\_\_

} Comparison Variety

\* 6. GROWTH HABIT: (Mature Plants)

7 1 = Prostrate ( )

3 = Semiprostrate ( )

5 = Horizontal ( )

7 = Semierect (57%)

9 = Erect (Mini Mustang) (35%)

\* 7. RHIZOMES (Psuedo):

\_\_\_\_\_ mm Length

1 1 = Absent ( )

2 = Rare (Rebel)

3 = Common ( )

\* 8. LEAF BLADE: (Tiller leaves/ turf color)

\* 8 Color: 1 = Light green ( )

3 = Medium light green ( )

5 = Green ( )

7 = Medium dark green ( )

9 = Very dark green ( )

5 Specify rating of comparison variety

\* 1 Anthocyanin: 1 = Absent ( )

9 = Present ( )

\* 1 Basal Hairs: 1 = Absent ( )

9 = Present ( )

\* 1 Margins: 1 = Smooth ( )

5 = Semi-rough ( )

9 = Rough ( )

## 8. LEAF BLADE: (continued)

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\* 6 Width Class: 1 = Very coarse ( ) 3 = Coarse ( ) 5 = Medium ( )

7 = Fine ( ) 9 = Very Fine ( )

\* TILLER LEAF LENGTH CM: (First leaf subtending the flag leaf)

\* TILLER LEAF WIDTH MM:

\_28.40\_ cm Tiller Leaf Length

\_8.80\_ mm Tiller Leaf Width

\_4.35\_ cm Shorter than \_6\_

\_\_\_ mm Narrower than \_\_\_

Length same as \_\_\_

Width same as \_6\_

\_\_\_ cm Taller than \_\_\_

\_\_\_ mm Longer than \_\_\_

Comparison Variety

Comparison Variety

FLAG LEAF LENGTH CM:

FLAG LEAF WIDTH MM:

\_33.43\_ cm Flag Leaf Length

\_6.73\_ mm Flag Leaf Width

\_4.57\_ cm Shorter than \_6\_

\_\_\_ mm Narrower than \_\_\_

Length same as \_\_\_

Width same as \_6\_

\_\_\_ cm Longer than \_\_\_

\_\_\_ mm Wider than \_\_\_

Comparison Variety

Comparison Variety

\* 9. LEAF SHEATH: (Basal Portion)

\*\_1\_ Anthocyanin (seedling): 1 = Absent (K31)

9 = Present ( )

\*\_9\_ Auricle Hairiness: 1 = Absent ( )

9 = Present (91%)

\* 10. PANICLE: (At seed maturity except where noted.)

\*\_5\_ Shape: 1 = Narrow-tapering (55%) 5 = Ovate ( ) 7 = Oblong (45%) 9 = Other (specify)

\*\_7\_ Type: 1 = Compact (55%) 5 = Intermediate ( ) 7 = Open (45%) 9 = Other (specify)

\*\_9\_ Orientation: 1 = Nodding (0%) 9 = Erect (100%)

\*\_1\_ Branch Pubescence: 1 = Glabrous (93%) 9 = Pubescent ( )

\*\_1\_ Anther Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green  
4 = Purplish 5 = Reddish 6 = Other (Specify)\*\_1\_ Glume Color (At anthesis): 1 = Yellowish Green 2 = Green 3 = Bluish Green  
4 = Purplish 5 = Reddish 6 = Other (Specify)

\*\_68.08\_ cm Panicle Length (from base to tip, if nodding, straighten; after anthesis)

\_\_\_ cm Shorter than \_\_\_

Length same as \_6\_

\_\_\_ cm Longer than \_\_\_

Comparison Variety

\* 11. SEED: (With Lemma & Pelea)

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\* 2338 mg per 1000 seeds

\_\_\_\_ mg Less than \_\_\_\_  
 Weight same as 6  
 \_\_\_\_ mg More than \_\_\_\_

} Comparison Variety

PALEA: (Keels or Margins) 5 Hairs: 1 = Absent ( ) 5 = Short (Missouri 96) 9 = Long ( )

LEMMA: 7 Hairs: 1 = Absent (Kenhy) 5 = Several ( ) 9 = Many (Missouri 96)

7.11 mm Lemma Length (Mature) 1.49 mm Lemma Width  
 \_\_\_\_ mm Shorter than \_\_\_\_  
 Length same as 6  
 \_\_\_\_ mm Longer than \_\_\_\_

} Comparison Variety

\_\_\_\_ mm Narrower than \_\_\_\_  
 Width same as 6  
 \_\_\_\_ mm Wider than \_\_\_\_

} Comparison Variety

\*AWNS: 9 AWNS: 1 = Absent ( ) 9 = Present (Falcon) 100 % Plants with awns

0.92 mm Awn length (Of those present.)

\_\_\_\_ mm Shorter than \_\_\_\_  
 Length same as 6  
 \_\_\_\_ mm Longer than \_\_\_\_

} Comparison Variety

12. DISEASE, INSECT, AND NEMATODE REACTION: (0= Not Tested 1= Least Resistant 9= Most Resistant)

<u>0</u> Melting-out <i>Drechslera poae</i>	<u>0</u> Blind Seed <i>Gloeotinia temulenta</i>
<u>0</u> Leaf Spot <i>D. siccan</i>	<u>0</u> Dollar Spot <i>Lanzia, Mollerdiscus</i> spp.
<u>0</u> Net Blotch <i>D. dictyoides</i>	<u>0</u> Stem Rust <i>Puccinia graminis</i>
<u>0</u> Brown Patch <i>Rhizoctonia solani</i>	<u>0</u> T. Blight <i>Typhula incarnata</i>
<u>0</u> C. Leaf Spot <i>Cercospora fectuae</i>	<u>0</u> Pythium Blight <i>Pythium</i> spp.
<u>0</u> Pink Snow Mold <i>Gerlachia nivalis</i>	<u>0</u> Powdery Mildew <i>Erysiphe graminis</i>
<u>0</u> Silver Top <i>F. tricinctum, F. roseum</i>	<u>0</u> Crown Rust <i>Puccinia coronata</i>
<u>0</u> Other Disease _____	
<u>0</u> Other Insect _____	
<u>0</u> Other Nematode _____	

13. ENVIRONMENTAL STRESS

<u>6</u> Drought Stress	1 = Susceptible ( )	5 = Tolerant ( )	9 = Resistant ( )
____ Shade Stress	1 = Susceptible ( )	5 = Tolerant ( )	9 = Resistant ( )

6 Winter Stress 1 = Susceptible ( ) 5 = Tolerant ( ) 9 = Resistant ( )

14. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics, indicate the degree of resemblance with the following scale:

1 = Application variety is less than comparison variety 2 = Same as 3 = More than, better, greater, darker, etc.

Character	Varieties	Rating	Character	Varieties	Rating
Leaf Width	Rebel II	2	Leaf Color	Rebel II	3
Panicle Color	Rebel II	2	Panicle Shape	Rebel II	2
Seed Size	Rebel II	2	Cold Injury	Rebel II	2
Winter Color	Rebel II	3	Heat	Rebel II	2
Disease	Rebel II	3			

\* 15. EXPERIMENTAL: Give a brief summary of the experimental design utilized to collect the data used on this form. Cultural conditions, number of plants measured and plant spacing must be specified.

A morphological nursery designated 01PVPFA was established in September 2001, in Albany, Oregon. Experimental design consisted of 20 entries; 4 replications per entry; 20 plants per replication; for a total of 80 plants per entry for tables 1A, 1B. Experimental design consisted of 20 entries; 3 replications per entry; 20 plants per replication; for a total of 60 plants per entry for tables 2 - 4. KY-31, Rebel II, Plantation and Tulsa were used as standards. Plants were established on 2.5 foot centers with a skip row between replications and between entries.

The nursery received 30 pounds of nitrogen per acre rate following establishment and 50 pounds of nitrogen per acre per year in 2002 and 2003. The fertilizer source was 15 - 15 - 15 and was applied as a split application with ½ applied in the spring and ½ in the autumn. The nursery was sprayed twice each spring, 3 weeks between applications, with Tilt (2oz/acre rate), to prevent stem rust. One pound of Karmex per acre rate was applied during the late summer to prevent emergence of volunteer seedlings.

Data was analyzed using analysis of variance for a randomized complete block design. Means were calculated for each replication and then analyzed.

**Exhibit D:**  
**Additional Description**  
**Cochise III (018) Tall Fescue**

Cochise III is an improved turf-type tall fescue. It has a shorter mature plant height (tables 1A, 1B) than previously released tall fescue cultivars, such as KY-31 and Tulsa. Cochise III has a medium maturity with a heading date later than KY-31 (tables 1A, 1B). Cochise III exhibits a darker genetic color compared to KY-31, Rebel II, Plantation and Tulsa (tables 1A, 1B). The length of the panicle is shorter for Cochise III compared to KY-31 and Tulsa (tables 1A, 1B). The length of the flag leaf and sheath of Cochise III is significantly shorter than KY-31, Rebel II and Tulsa (tables 1A, 1B). Cochise III has a reduced internode length compared to KY-31 and Tulsa (tables 1A, 1B). The leaf blade length is shorter for Cochise III compared to KY-31 and Rebel II (tables 1A, 1B). The length of the leaf blade sheath is shorter for Cochise III than KY-31, Rebel II and Plantation (tables 1A, 1B). Cochise III has fewer spikelets per panicle compared to KY-31, Rebel II and Plantation (tables 2A, 2B). The distance between the lower most whorl and the apex is reduced for Cochise III compared to KY-31 (tables 2A, 2B). Cochise III expresses fewer plants with a horizontal growth habit compared to Ky-31, Rebel II and Tulsa (tables 3A, 3B). Cochise III has a lower percentage of plants with purple pigmentation of the panicle than Rebel II, Plantation and Tulsa (tables 3A, 3B). Cochise III expresses a higher frequency of plants with only one main branch on the lower most whorl compared to KY-31, Rebel II and Plantation (tables 3A, 3B, illus. 1). Pubescence of the panicle branch is less dominant in Cochise III compared to KY-31, ~~Rebel II and Tulsa~~ (tables 3A, 3B). (Oct. 8/24/2004 per applicant's authorization) The milligram weight of 1,000 seeds of Cochise III is less than KY-31 and Plantation (tables 4A, 4B). The production of dark pigmentation at the nodes is less frequent in Cochise III compared to KY-31, Rebel II and Tulsa (tables 4A, 4B).

Table 1A  
2002 Morphological Data

Cultivar	Genetic Color (scale 1-9) 1 = Dark Green 9 = Light Green (6/17/04)	Heading Date (days after April 1)	Anthesis Date (days after April 1)	Mature Plant Height (cm)	Plant Width (cm)	Panicle Length (cm)	Flag Leaf Length (cm)	Flag Leaf Width (mm)	Flag Leaf Height (cm)	Flag Leaf Sheath Length (cm)	Flag Leaf Internode Length (cm)	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Blade Height (cm)	Leaf Sheath Length (cm)
018	6.06	40.50	66.00	88.15	11.15	68.08	33.43	6.73	20.28	20.98	16.90	28.40	8.80	14.85	11.45
SBL	5.71	36.25	64.75	95.18	11.03	73.18	35.28	6.70	21.93	21.83	17.25	30.05	8.85	16.48	11.73
SBM	5.58	39.00	65.25	88.85	11.00	67.83	32.45	6.03	21.05	20.85	17.35	35.08	8.60	15.40	11.63
RB3	6.21	38.25	65.00	86.90	10.83	69.03	32.35	6.98	17.88	20.33	15.15	27.65	9.23	13.90	11.03
RB2	5.90	35.50	64.50	89.40	10.40	68.85	33.45	6.78	19.45	21.00	16.68	28.25	8.93	15.03	11.25
ATF799	5.89	43.75	66.75	83.28	10.45	62.83	29.08	6.00	20.38	19.05	17.10	26.08	8.38	14.13	10.85
ATF800	5.61	42.50	67.25	93.05	10.78	68.63	33.65	6.00	24.75	22.25	20.48	29.40	8.30	17.05	12.10
ATF802	5.66	40.00	65.75	91.48	11.13	72.38	34.15	5.98	18.75	22.18	16.48	27.85	8.70	13.58	10.98
ATF704S1	5.43	38.00	65.75	97.10	11.18	70.98	35.03	6.38	25.05	22.70	20.35	29.88	8.38	17.63	12.33
ATF803	5.59	39.50	66.75	92.48	10.60	72.73	36.48	7.45	19.63	22.10	16.65	31.48	9.35	15.10	11.83
ATF805	6.13	45.75	69.75	73.20	8.75	58.40	28.48	5.78	14.68	18.38	13.38	23.53	8.03	10.95	9.60
KY-31	3.86	35.25	65.25	122.95	11.23	83.73	48.43	7.68	37.30	32.63	26.38	44.10	11.05	31.05	18.65
Rebel II	5.04	41.25	66.50	88.18	10.60	68.45	38.00	7.58	19.35	23.10	16.70	32.75	9.85	15.63	12.48
Plantation	5.69	40.25	66.00	89.23	11.03	68.00	35.28	6.73	20.95	22.15	17.13	31.20	9.25	16.35	12.55
Tulsa	5.09	40.50	66.50	97.98	11.00	72.35	37.35	6.48	24.53	23.40	19.78	32.40	8.63	18.78	13.00
LSD (.05)	0.21	2.01	1.42	5.38	0.90	4.02	2.49	0.63	2.47	1.31	1.56	3.65	0.60	1.94	0.94
CV	3.31	4.32	1.82	4.89	7.02	4.83	5.97	8.27	9.33	4.96	7.18	10.05	5.81	9.83	6.54

■ Cultivar under evaluation  
 ■ Significant difference over two years one location.  
 ■ Significant difference over one year one location.  
 Measurements taken in Albany, Oregon  
 4 reps; 20 plants/rep = 80 data points

(6/17/04)

Table 1B

## 2003 Morphological Data

Cultivar	Genetic Color (Scale: 1 = Dark Green 9 = Dark Green 17 = Green)	Heading Date (days after April 1)	Anthesis Date (days after April 1)	Mature Plant Height (cm)	Plant Width (cm)	Panicle Length (cm)	Flag Leaf Length (cm)	Flag Leaf Width (mm)	Flag Leaf Height (cm)	Flag Leaf Sheath Length (cm)	Flag Leaf Internode Length (cm)	Leaf Blade Length (cm)	Leaf Blade Width (mm)	Leaf Blade Height (cm)	Leaf Sheath Length (cm)
018	6.10	59.50	60.73	108.98	27.00	70.58	44.63	5.25	38.13	26.70	23.83	42.80	6.25	29.10	16.83
SBL	5.58	51.25	56.65	115.93	28.25	77.35	46.50	5.10	37.90	28.90	24.98	42.50	5.85	31.43	17.50
SBM	5.64	57.25	59.65	111.50	27.25	71.43	43.60	5.10	38.95	26.53	24.98	40.60	6.15	31.45	16.68
RB3	5.96	55.50	58.35	115.60	27.75	76.43	44.40	5.38	38.13	27.10	24.75	43.63	6.05	29.58	17.10
RB2	6.06	52.00	56.48	113.75	28.00	73.23	44.68	5.00	39.88	26.63	24.70	41.95	5.38	30.45	17.50
ATF799	5.90	60.75	61.98	107.50	27.25	67.68	38.88	4.40	38.75	23.28	25.20	38.25	5.18	28.65	16.28
ATF800	5.76	58.50	59.83	118.05	28.50	76.53	42.60	4.85	39.60	27.40	27.35	41.48	5.40	28.30	17.78
ATF802	5.71	58.50	60.60	120.35	27.50	80.30	48.10	5.15	38.65	29.05	25.75	42.88	5.88	29.43	17.73
ATF704S1	5.43	51.25	56.50	118.13	27.50	76.93	45.05	5.10	39.85	27.65	26.45	40.13	5.70	28.73	17.38
ATF803	5.53	58.00	60.30	120.65	27.00	78.18	46.43	5.25	42.98	28.08	24.80	45.03	6.00	33.50	18.43
ATF805	6.34	58.50	60.83	110.10	25.75	75.38	42.53	5.15	34.83	25.80	22.85	39.85	5.90	26.30	16.43
KY-31	2.99	46.00	54.28	145.90	27.50	89.48	59.13	7.18	37.30	37.18	28.05	61.03	9.05	51.40	24.68
Rebel II	5.11	57.75	59.08	118.63	27.75	82.08	50.90	6.03	36.43	28.98	24.58	48.60	6.33	28.58	18.98
Plantation	5.71	57.75	60.28	118.68	27.75	77.60	46.80	5.68	40.40	27.85	24.75	44.43	6.78	31.53	18.33
Tulsa	5.10	57.25	59.98	118.65	27.00	79.68	47.78	5.18	39.13	28.55	25.48	43.20	5.45	29.28	17.85
LSD (.05)	0.25	2.47	1.15	4.51	1.77	3.91	2.13	0.78	3.57	1.44	1.16	2.42	0.92	3.55	1.06
CV	3.90	3.74	1.65	3.25	5.47	4.33	3.90	12.72	7.51	4.34	3.86	4.67	12.97	9.61	4.99

■ Cultivar under evaluation

■ Significant difference over two years one location.

■ Significant difference over one year one location.

Measurements taken in Albany, Oregon

4 reps; 20 plants/rep = 80 data points

(8/8/07)



Table 2A 2002 Laboratory Morphological Data

Cultivar	Lemma Length (mm)	Lemma Width (mm)	Lemma Awn Length (mm)	Palea Length (mm)	Palea Width (mm)	Glume Length (mm)	Length of Panicle from Lower Most Whorl to Tip (cm)	Spikelets per Panicle	Florets per Spikelet	Spikelet Length (mm)	Length of Longest Whorl (mm)	Distance Between Lower Most Whorls (mm) (8/17/02)	Number of Spikelets on the Longest Whorl
018	7.11	1.49	0.92	6.45	1.12	5.00	20.43	85.00	7.63	13.53	86.83	48.17	16.30
SBL	6.85	1.46	1.06	6.45	1.15	5.36	20.53	80.00	7.10	13.00	89.57	51.30	14.83
SBM	6.83	1.55	1.08	6.41	1.17	5.08	19.60	80.00	7.20	13.07	86.10	47.60	14.50
RB3	6.80	1.55	0.91	6.32	1.19	5.15	18.47	76.67	7.53	13.17	76.40	46.43	13.50
RB2	6.46	1.56	0.86	6.08	1.22	5.12	17.87	76.67	7.17	12.47	76.33	45.23	12.83
ATF799	6.55	1.47	0.84	6.19	1.15	5.00	17.23	72.33	7.50	12.87	74.47	42.80	13.80
ATF800	7.17	1.46	0.94	6.65	1.13	4.98	18.77	70.00	7.33	13.20	80.07	46.87	11.73
ATF802	7.00	1.55	0.83	6.34	1.21	5.31	20.60	82.67	8.20	13.50	92.07	52.87	15.27
ATF704S1	7.14	1.46	0.94	6.61	1.14	5.57	19.07	73.67	7.47	13.13	79.70	47.17	12.10
ATF803	6.77	1.49	0.82	6.28	1.10	5.31	21.73	85.33	7.67	13.07	101.13	54.20	13.80
ATF805	6.73	1.51	0.88	6.37	1.11	5.29	16.93	80.67	8.10	13.50	71.93	41.53	13.97
KY-31	7.74	1.62	0.98	7.25	1.26	5.77	29.33	116.33	8.07	15.13	111.17	67.90	16.33
Rebel II	6.77	1.45	1.07	6.35	1.09	5.35	21.67	98.00	6.90	12.53	91.77	53.83	14.57
Plantation	6.72	1.45	0.80	6.33	1.14	4.83	20.43	97.33	7.17	12.63	87.10	48.40	15.50
Tulsa	6.72	1.48	0.78	6.25	1.14	4.87	21.60	93.67	7.27	12.50	89.80	50.77	13.87
SD(05)	0.31	0.08	0.17	0.23	0.08	0.34	2.31	11.18	0.85	0.91	13.15	5.49	2.95
CV	3.25	3.94	12.97	2.64	5.23	4.83	8.32	9.84	8.43	5.08	11.21	8.11	15.44

Cultivar under evaluation

Significant difference over two years one location.

Significant difference over one year one location.

Measurements taken in Albany, Oregon

3 reps; 20 plants/rep = 60 data points

(8/17/02)

Table 2B 2003 Laboratory Morphological Data

Cultivar	Lemma Length (mm)	Lemma Width (mm)	Lemma Awn Length (mm)	Palea Length (mm)	Palea Width (mm)	Glume Length (mm)	Length of Panicle from Lower Most Whorl to Tip (cm)	Spikelets per Panicle	Florets per Spikelet	Spikelet Length (mm)	Length of Longest Whorl (mm)	Distance Between Lower Most Whorls (mm)	Number of Spikelets on the Longest Whorl
018	6.45	1.41	1.52	6.08	1.15	4.51	25.93	92.33	5.37	10.60	96.53	63.23	16.90
SBL	7.06	1.49	1.47	6.39	1.20	5.17	26.13	92.00	5.63	11.43	101.40	67.87	16.83
SBM	7.15	1.48	1.51	6.53	1.18	4.98	25.67	89.67	5.57	11.47	108.50	63.93	17.07
RB3	7.16	1.45	1.48	6.50	1.22	5.07	26.23	92.67	5.27	11.27	100.10	66.67	17.93
RB2	6.88	1.43	1.21	6.22	1.19	4.95	25.87	99.33	5.13	10.73	104.77	63.30	19.57
ATF799	6.52	1.46	1.15	6.10	1.17	4.72	22.50	85.33	5.23	10.50	89.47	55.83	15.93
ATF800	6.30	1.42	1.15	6.16	1.18	4.44	23.10	77.67	4.87	10.43	81.70	57.10	11.37
ATF802	6.47	1.37	1.37	6.07	1.17	4.80	27.43	92.33	5.60	10.53	111.00	68.57	18.27
ATF704S1	6.92	1.57	1.55	6.59	1.29	5.17	26.37	82.67	5.60	11.40	104.23	68.03	15.40
ATF803	6.20	1.60	1.35	6.18	1.20	4.98	28.83	97.67	4.97	10.47	126.50	69.93	17.30
ATF805	6.06	1.42	1.55	6.08	1.09	4.79	24.57	103.00	5.53	10.50	85.17	58.53	16.57
KY-31	7.28	1.55	1.59	7.13	1.32	5.41	34.67	122.67	6.23	13.23	123.40	80.83	17.93
Rebel II	6.75	1.47	1.80	6.21	1.18	5.00	29.47	108.00	4.53	10.63	117.07	71.40	18.47
Plantation	6.41	1.45	1.31	6.14	1.19	4.40	27.30	105.33	4.80	10.13	106.87	65.43	17.37
Tulsa	6.33	1.42	1.39	5.97	1.24	4.51	27.67	100.67	4.77	9.87	101.97	68.40	16.97
LSD (.05)	0.70	0.10	0.27	0.31	0.10	0.37	1.81	8.48	0.47	0.79	11.74	5.46	2.80
CV	7.74	4.86	13.52	3.64	6.31	5.60	4.93	6.51	6.53	5.28	8.27	6.05	12.18

Cultivar under evaluation

Significant difference over two years one location.

Significant difference over one year one location.

Measurements taken in Albany, Oregon

3 reps; 20 plants/rep = 60 data points

(BT:8/14/03)

Table 3A 2002 Additional Morphological Measurements of the Panicle

Cultivar	Growth Habit at Anthesis % Semi- Prostrate	Growth Habit at Anthesis % Horizontal	Growth Habit at Anthesis % Semi- Erect	Growth Habit at Anthesis % Erect	Anther Color % Purple	Panicle Color % Purple	Lemna Awn % Present	Glume Color % Purple	Panicle Orientation % Nodding	Panicle Shape % Oblong	Panicle Type % Open	Panicle Branch Lower Whorl =1	Panicle Branch Lower Whorl =2	Panicle Branch Lower Whorl >3	Panicle Branch Pubescence % Present
O18	0	5	57	38	5	25	100	0	0	45	45	40	60	0	7
SBL	0	20	45	35	5	20	100	2	3	60	60	30	65	5	3
SBM	0	2	56	42	5	27	100	3	2	65	65	20	75	5	8
RB3	0	28	42	30	2	18	100	0	0	72	72	30	67	3	7
RB2	0	12	55	33	10	20	100	2	0	67	67	20	75	5	2
ATF799	0	17	58	25	10	43	100	0	0	38	38	40	55	5	12
ATF800	0	32	53	15	3	45	100	5	0	43	43	18	78	2	0
ATF802	3	25	58	14	7	50	100	3	0	53	53	23	75	2	2
ATF704S1	0	22	71	7	3	20	100	3	0	47	47	23	75	2	5
ATF803	2	50	45	3	0	32	100	2	5	30	30	8	83	9	3
ATF805	0	20	62	18	3	23	100	2	0	27	27	15	82	3	3
KY-31	10	62	28	0	3	7	100	0	15	23	23	8	87	5	18
Rebel II	3	17	48	32	3	40	100	0	0	48	48	9	80	11	3
Plantation	0	8	64	28	5	35	100	0	0	50	50	13	85	2	12
Tulsa	2	34	57	7	3	32	100	3	3	45	45	10	88	2	2

■ Cultivar under evaluation

Measurements taken in Albany, Oregon  
3 reps; 20 plants/rep = 60 data points

Table 3B 2003 Additional Morphological Measurements of the Panicle

Cultivar	Growth Habit at Anthesis % Semi- Prostrate	Growth Habit at Anthesis % Horizontal	Growth Habit at Anthesis % Semi- Erect	Growth Habit at Anthesis % Erect	Anther Color % Purple	Panicle Color % Purple	Lemma Awn % Present	Glume Color % Purple	Panicle Orientation % Nodding	Panicle Shape % Oblong	Panicle Type % Open	Panicle Branch Lower Whorl =1	Panicle Branch Lower Whorl =2	Panicle Branch Lower Whorl >3	Panicle Branch Pubescence % Present
018	0	2	75	23	0	3	100	0	0	69	69	33	59	9	0
SBL	0	22	45	33	2	12	100	3	0	65	65	34	59	7	4
SBM	0	4	55	41	2	7	100	2	0	62	62	24	68	9	2
RB3	0	25	47	28	2	3	100	0	0	66	66	39	49	13	0
RB2	0	11	57	32	2	3	100	0	0	72	72	54	44	2	1
ATF799	0	33	54	13	3	12	100	3	0	66	66	36	54	10	1
ATF800	0	41	52	7	18	0	100	3	0	70	70	21	68	11	5
ATF802	5	36	53	6	2	17	100	8	0	77	77	38	60	3	1
ATF704S1	0	25	70	5	2	5	100	5	0	81	81	25	71	4	2
ATF803	6	49	43	2	2	12	100	5	0	70	70	24	71	6	1
ATF805	0	17	67	16	0	5	100	0	0	55	55	31	59	10	2
KY-31	12	55	33	0	0	0	100	7	0	100	100	15	75	10	5
Rebel II	3	20	42	35	3	8	100	0	0	80	80	19	64	18	0
Plantation	0	3	72	25	0	13	100	3	2	72	72	15	76	9	6
Tulsa	4	33	60	3	3	10	100	0	0	80	80	35	59	6	1

■ Cultivar under evaluation

Measurements taken in Albany, Oregon  
3 reps; 20 plants/rep = 60 data points

# Panicle Type Inflorescence

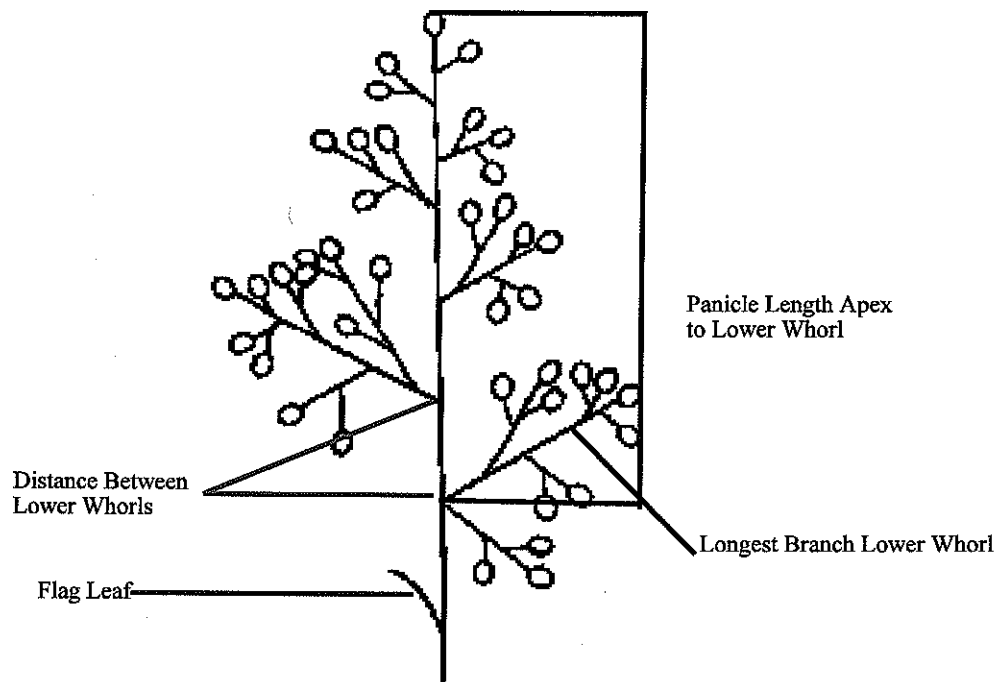


Illustration 1.

Table 4A 2002 Additional Morphological Measurements

Cultivar	Anthocyanin Present in the Leaf Blade % Purple	Leaf Blade Margin Roughness to the Touch % Smooth	Leaf Blade Margin Roughness to the Touch % Semi-Rough	Leaf Blade Margin Roughness to the Touch % Rough	Leaf Blade Margin Hairs % Present	Leaf Sheath Auricle Hairs % Present	Rhizomes % Present	Lemna Hairs % Present	Palea Hairs % Present	Node Color % Distinct	Seed Weight (mg/1,000 seeds)
018	0	13	12	75	100	100	0	100	100	5	2338
SBL	0	35	33	32	97	93	0	100	100	15	2578
SBM	0	35	23	42	98	98	0	95	100	2	3194
RB3	0	18	35	47	100	97	0	98	100	5	3977
RB2	0	28	22	48	98	95	0	97	100	3	2103
ATF799	0	25	22	53	100	97	0	100	100	7	2350
ATF800	0	7	22	71	100	100	0	100	100	32	3080
ATF802	0	33	24	43	100	98	0	98	100	30	2638
ATF704S1	0	30	32	38	100	97	0	100	100	17	2562
ATF803	0	15	18	67	100	97	0	100	100	28	3195
ATF805	0	10	12	78	100	95	0	100	100	12	3006
KY-31	0	58	22	18	100	95	0	100	100	30	2924
Rebel II	0	12	15	73	100	98	0	100	100	10	2334
Plantation	0	15	25	60	100	100	0	100	100	3	2458
Tulsa	0	47	16	37	100	98	0	100	100	15	2347

■ Cultivar under evaluation

Measurements taken in Albany, Oregon  
3 reps; 20 plants/rep = 60 data points

2003 Additional Morphological Measurements

Table 4B

Cultivar	Anthocyanin Present in the Leaf Blade % Purple	Leaf Blade Margin Roughness to the Touch % Smooth	Leaf Blade Margin Roughness to the Touch % Semi-Rough	Leaf Blade Margin Roughness to the Touch % Rough	Leaf Blade Margin Hairs % Present	Leaf Blade Auricle Hairs % Present	Leaf Sheath Hairs % Present	Rhizomes % Present	Lemma Hairs % Present	Palea Hairs % Present	Node Color % Distinct	Seed Weight (mg/1,000 seeds)
018	0	77	22	2	96	91	0	0	99	100	2	2345
SBL	0	85	15	0	99	90	0	0	100	100	10	2580
SBM	0	78	17	5	100	92	0	0	100	100	5	3190
RB3	0	78	20	2	95	92	0	0	99	100	2	3973
RB2	0	88	12	0	96	97	0	0	100	100	3	2109
ATF799	0	72	18	10	92	91	0	0	100	100	5	2345
ATF800	0	55	43	2	92	90	0	0	100	100	5	3114
ATF802	0	83	17	0	99	90	0	0	100	100	18	2702
ATF704S1	0	77	18	5	95	92	0	0	99	100	20	2564
ATF803	0	70	23	7	99	95	0	0	100	100	10	3139
ATF805	0	82	15	3	96	90	0	0	99	100	0	3070
KY-31	0	55	37	8	96	94	0	0	100	100	32	2937
Rebel II	0	85	12	3	97	91	0	0	99	100	5	2310
Plantation	0	72	20	8	97	92	0	0	100	100	2	2463
Tulsa	0	90	7	3	97	96	0	0	100	100	8	2352

■ Cultivar under evaluation

Measurements taken in Albany, Oregon  
3 reps; 20 plants/rep = 60 data points

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) <i>Rutgers, The State University of New Jersey</i> <del>Foran Hall</del> <del>65-8/17/07 Rutgers University</del>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 018	3. VARIETY NAME Cochise III
4. ADDRESS (Street and No., or R.F.D. No., City, State, and Zip, and Country) Foran Hall Plant Biology & Pathology Dept. 59 Dudley Road New Brunswick, NJ 08901	5. TELEPHONE (Include area code) 732 - 932 - 9711 ext. 160	6. FAX (Include area code) 732 - 932 - 9441
7. PVPO NUMBER <i>200400109</i>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

☒ YES☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

☒ YES☐ NO

10. Is the applicant the original owner?

If no, please answer one of the following:☒ YES☐ NO

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☒ YES☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☒ YES☐ NO

If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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